Maine Maritime Museum Library
243 Washington Street
Bath, Maine 04530-1638
(207) 443-1316, ext. 328, 336

Inventory for

Manuscript Collection
MS - 33

Archibald Main Papers

Circa 1880-1954

by
Elisabeth Meier
June 2018

5 boxes
2 linear feet
Accession no. 76.74.28, 58, 122-125, and 129, and 76.74, not enumerated; 95.81.1-5; 2015.44

Copyright Restrictions

The material described herein is the physical property of the Maine Maritime Museum Library. **Literary rights, including copyright, belong to the authors of the various items, or to their legal representatives, or to Maine Maritime Museum.** For further information, consult the library staff.

The copyright law of the United States (Title 17, United States Code) governs the making of photocopies or other reproductions of copyrighted materials.

Under certain conditions specified in the law, libraries and archives are authorized to furnish a photocopy or other reproduction. One of these specified conditions is that the photocopy or reproduction is not to be *"used for any purpose other than private study, scholarship or research."* If a user later uses a photocopy or reproduction for purposes in excess of "fair use," that user may be liable for copyright infringement.

This institution reserves the right to refuse to accept a copying order if fulfillment of the order is judged to be in violation of copyright law.

It is the user's responsibility to understand the copyright law concerning the use of the historical documents contained in this library.

Copyright © 2018 by Maine Maritime Museum

No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form, or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior permission of the Maine Maritime Museum Library.

Abstract

Archibald Main (1871-1961)

Papers, c. 1880-1954

5 boxes

Naval architect and vice president of Bath Iron Works

This collection contains specification, sketches, calculations, technical notes, and correspondence from Archibald Main, a Scottish-born naval architect. The bulk of the collection is technical material from Main's career at major east coast steel shipyards like the Eastern Shipbuilding Company, Harlan & Hollingsworth, and Bath Iron Works, along with some documents from his early career in Britain. It also includes material from the Maine Port Authority in the late 1940s and a notebook of calculations made by Edward O. Cutler as a draftsman at Bath Iron Works circa 1906.

Gift of Daniel Burden and Jane Parry.

MS-33. Accession #76.74.28, 58, 122-125, 129, and 76.74, not enumerated; 95.81.1-5; and 2015.44.

Finding aid (folder level control) in repository.

Added entries—persons:

Cutler, Edward O. (1879-1970)
Main, Archibald (1871-1961)

Added entries—corporate bodies (including vessels):

Ailsa Shipbuilding Company
Bath Iron Works
Eastern Shipbuilding Company
Harlan & Hollingsworth
Maine Port Authority
New England Shipbuilding Corporation
Pusey & Jones
Workman, Clark & Co.

Added entries—key terms:

Barges
Fishing boats
Harbors – law and legislation
Marine engineering
Naval architecture – designs and plans
Passenger ships
Patrol boats
Shipbuilding
Shipbuilding contracts
Ships, iron and steel
Ships – launching
Yacht building

Acquisition

Daniel Burden donated most of this collection to the Maine Maritime Museum in 1976. The materials came from the estate of Archibald Main (Sr.). The remainder of the collection was given to the museum by Jane Parry, a descendant of Archibald Main, in 1995 and 2015.

Restrictions

There are no restrictions on this collection.

Physical Condition

The collection is in acceptable condition. Some of the cheaper papers are becoming brown and brittle with age. The edges of many documents are battered and torn.

Processing Notes

The shipbuilding papers in this collection have been organized first by shipyard, then by vessel type, and then by hull number. This appears closest to the original order of the collection. Where notes on multiple shipyards were grouped in a single notebook, this organization had to be modified accordingly. Where multiple letters were grouped with a single paper clip, they have been left together rather than filed in strict chronological order.

This collection originally included a selection of plans from Archibald Main's work at Bath Iron Works, Pusey & Jones, and Harlan & Hollingsworth. These are now PL-26 in the plans collection. There is a complete index in Appendix A.

Related Materials

More material from Archibald Main can be found in SM 58/6 and SM 67/13. These collections contain scattered correspondence and ephemera, mostly from Main's tenure at Bath Iron Works. SM 67/10 contains material related to Main's son, Archibald Main Jr.

The plans that came with this manuscript collection have been removed to PL-26. Many of these plans are related to the manuscript material, so researchers may wish to consult both. Additionally, *The Port of Portland*, a 1950 publication of the Maine Port Authority, has been removed to the library stacks (HE554 .P6P6 1950).

PC-158 contains photos of ship launchings and other events at Bath Iron Works and the Todd-BIW yard in South Portland, including several of the vessels referenced in this collection. It also has a provenance with the Main family. A small group of photos that arrived with accession #2015.44 have been filed here.

More material on Bath Iron Works can be found MS-55 and MS-59, respectively ephemera and records from the company, and PC-3, PC-84, and PC-299, all photograph collections. There are many smaller collections related to Bath Iron Works: please consult the library staff. Additionally, MS-32, the Henry A. Magoun Collection, contains material on many of the same vessels and engineering problems that concerned Archibald Main.

Historical Note

Archibald Main was a draftsman and naval architect who worked at major steel shipyards in Britain and the United States. He was instrumental in reviving Bath Iron Works after its bankruptcy in the 1920s and remained an executive at the yard until the end of World War II.

Archibald Main was born in Scotland in 1871. He studied naval architecture at the University of Glasgow and began his career in British shipyards, including the Ailsa Shipbuilding Company in Troon, Scotland, and Workman, Clark & Co. of Belfast. He emigrated the United States in 1900 to join the Eastern Shipbuilding Company of New London, Connecticut, where he helped build the *Minnesota* (screw steamer) and the *Dakota* (screw steamer), two of the largest ships in the world at the time. In 1905, Main left New London for the Harlan & Hollingsworth shipyard in Wilmington, Delaware, where he rose from draftsman to superintendent, and, finally, the yard's naval architect.

In 1917, Archibald Main entered shipyard management. He accepted the post of vice president at the Merrill Stevens Company shipyard in Jacksonville, Florida, and stayed there until the end of World War I. In 1919, he moved back to New London as the general manager for the Groton Iron Works. He returned to the Delaware River in 1921 as a naval architect with the consulting firm W. Grisholm Coxe before joining Wilmington's Pusey & Jones shipyard.

In 1927, Main was recruited by W.S. 'Pete' Newell to revive the bankrupt Bath Iron Works. The effort was successful, and Main remained a leader at Bath Iron Works for the remainder of his career. He was also instrumental in founding the joint Todd-Bath Iron Works shipyard in South Portland to build Liberty ships during World War II. Main officially retired in 1946, but remained chairman of the board at Bath Iron Works for another decade and the honorary chairman until his death.

Main was appointed to the Maine Port Authority in 1947, which he served for a number of years. He also was a director of the State YMCA, the Pine Tree Society, Memorial Hospital in Portland, the Patten Free Library in Bath, and other civic and social organizations. Additionally, he was a member of the American Society of Naval Architects, the Society of Naval Engineers, and the Institute of Naval Architects of London. Main died in Bath in 1961.

Scope and Content Note

This collection contains sketches, plans, specifications, calculations, technical notes, and correspondence from Archibald Main's career, beginning with his schoolwork at the University of Glasgow. It is not a complete record of Main's work or the vessels he built, but does provide a detailed record of practical aspects of naval engineering and steel ship design in the early twentieth century.

The bulk of the collection is technical material related to building and designing large iron and steel ships. There is material from the Eastern Shipbuilding Company, Harlan & Hollingsworth, the Groton Iron Works, Pusey & Jones, and Bath Iron Works, with a few documents from Main's time at British shipyards. Early material largely consists of working calculations and solutions to specific engineering problems. Documents from Bath Iron Works are more likely to include formal plans, specifications, or correspondence with clients.

Personal material includes a small file of correspondence, much of it related to job offers, diaries from the 1930s and 40s, manuscripts of lectures and addresses, and ephemera from Main's life and career. There is also a series of reports and correspondence from the Maine Port Authority in the late 1940s, when Archibald Main served on the committee.

The collection also contains a notebook kept by Edward O. Cutler, a draftsman at Bath Iron Works and, later, an executive at the Groton Iron Works. The notebook contains notes and calculations for vessels under construction at Bath Iron Works between 1906 and 1908.

Box and Folder List

Series I: Archibald Main

Ia: Career and Personal

Box	Folder	
1	1	Letters of reference, 1899-1905
	2	Correspondence re: employment, 1894-1927
	3	General, 1928-1960
	4	Diary pages, 1934
	5	Journal of a trip to Britain for Meetings of the Institute of Naval Architects and Marine Engineers and International Engineering Congress, c. 1936
	6	Diaries, 1937 and 1939
	7	1940 (pages)
	8	1943
	9	1945 (pages)
	10	Memorandum book, 1921
	11	Lectures and addresses, 1942-1947 and undated
	12	Notes on restarting Bath Iron Works for W.S. Newell's book
	13	Invitations, launchings, Bath Iron Works, 1928-1955
	14	Commissionings, US Navy, 1843-1953
	15	Reception for the officers of the French frigate *L'Aventure*, 1956
	16	Ephemera, 1900-1960
	17	Clippings, 1903-1960
	18	1961-c.1993, collected by family

Ib: Shipbuilding

2	1	Notebooks, naval engineering, University of Glasgow
	2	British shipyards, calculations and specifications, 1880-1895
	3	Binder, 1880-1917 British shipyards, calculations and specifications, 1880-1900 Harlan & Hollingsworth, calculations and specifications, 1905-1917 Notes on naval engineering, organized alphabetically
	4	Inclusions, above binder, Harlan & Hollingsworth, 1905-1917
	5	Eastern Shipbuilding Company, general correspondence, 1905 and undated
	6	Notebook, *SS Dakota* and *SS Minnesota*, 1900-1904
	7	Inclusions, Eastern Shipbuilding Company notebook, 1900-1904
	8	Harlan & Hollingsworth, general correspondence, 1905-1914
	9	Oil tanker *George E. Paddleford*, specifications
3	1	Barges, notes and specifications
	2	Merrill-Stevens Company, notes and correspondence, 1917
	3	Groton Iron Works, barges, notes and specifications
	4	Pusey & Jones, general correspondence, 1927
	5	Passenger vessels, *State of Maryland* and *State of Virginia*, for the Baltimore Steam Packet Company

Box	Folder	
3	6	American shipyards, unidentified passenger vessels
	7	Miscellaneous material, c. 1900-1927
	8	Bath Iron Works, general correspondence, 1935-1946 and undated
	9	Destroyers, notes and correspondence
	10	Fishing trawlers, hulls #119-121, *Boston College*, *Holy Cross*, and *Georgetown* for Francis J. O'Hara
	11	" Hulls #126-127, *Ebb* and *Flow*, for the Bay State Fishing Company
	12	" Hulls #128-129, *Notre Dame* and *Fordham*, for Francis J. O'Hara, specifications
	13	" Hulls #128-129, notes and correspondence
	14	" Hulls #142-143, *Illinois* and *Maine*, for the Red Diamond Trawler Company, specifications
	15	" Hulls #142-143, notes and correspondence
	16	" Hulls #164-166 and #174, *Storm*, *Surf*, *Swell*, and *Tide*, for the Bay State Fishing Company
	17	" Hull #169, *Delaware*, for Booth Fisheries
	18	" Hulls #175-176, *Jean D'Arc* and *Villanova*, for Francis J. O'Hara
	19	Fishing trawlers, multiple hull #s and general material
	20	" Trade catalogs and clippings
4	1	US Coast Guard Patrol Boats, hulls #147-153, *Thetis*, *Aurora*, *Calypso*, *Daphne*, *Hermes*, *Perseus*, and *Icarus*, specifications and sea trial data
	2	" Hulls #147-153, correspondence and calculations
	3	" Correspondence with Mathis Boatbuilding Company, 1932
	4	Yachts, hull #124, *Corsair IV*, for J.P. Morgan, specifications
	5	" Hull #124, construction, notes
	6	" Hull #124, construction, correspondence
	7	" Hulls #134-138, *Placida*, *Sylvia*, *Kenkora II*, *Trudione*, and *Aletes*
	8	" Hull #139, *Aras*, for Hugh J. Chisholm
	9	" Hull #277, *Haida*, for Max C. Fleischmann
	10	Data from hulls #117-140; miscellaneous shipbuilding material
	11	Miscellaneous Bath Iron Works material
	12	Todd-Bath Iron Works Corporation, wage rates (originally stored in the front cover of a notebook, box 2 folder 5)
	13	Notes on propeller alignment, c. 1930 (originally stored in the front cover of a notebook, box 2 folder 5)
		Ic: Maine Port Authority
5	1	Maine Port Authority, "Annual Report on Foreign and Domestic Shipping," 1949 and 1950
	2	Financial balance sheets, June – September 1952 and July 1953
	3	Audit reports, 1948 and 1951
	4	Correspondence, 1952-1953
	5	Yarmouth-Bar Harbor Ferry, 1951-1953
	6	Plans for the New York Shed and Wharf, Portland Harbor, 1948

	7	Notes
	8	Certificate appointing Archibald Main to the Maine Port Authority, 1947

Series II: Edward O. Cutler

Box	Folder	
5	9	Engineering notebook, Bath Iron Works, 1906-1908

Appendix A
Plans removed to PL-26
Box and folder numbers refer to PL-26

Bath Iron Works

Box	Folder	
1	1	Hulls #119-121. *Boston College*, *Holy Cross*, and *Georgetown* (motor vessel, fishing) for F.J. O'Hara #119-25-1. Offset Table. April 23, 1923 #119-27-2. Classification Plan. Inboard Profile and Main Deck. May 17, 1928
	2	Hulls #126-127. *Ebb* and *Flow* (motor vessel, fishing) for the Bay State Fishing Company Deck Arrangement. Estimate 56
	3	Hulls #129-130. *Notre Dame* and *Fordham* for Francis J. O'Hara Deck Arrangement (proposed). March 12, 1929 #129-27-1a. Classification Plan. Inboard Profile and Main Decks. June 3 1929 #129-1-1. Outboard Profile. September 10, 1929
	4	Hull #139, *Aras* (motor vessel, yacht), for Hugh J. Chisholm Midship & Type Sections, May 23, 1929 #139-27-2. Inboard Profile. January 9, 1930 #139-M-3-1. Arrangement of Machinery. July 2, 1930
	5	Hulls #142-143. *Illinois* and *Maine* (motor vessel, fishing) for the Red Diamond Trawler Company Proposed Method of Fitting Bilge Keel to Shell. September 23, 1930
	6	Hulls #147-153 Patrol Boats *Thetis*, *Aurora*, *Calypso*, *Daphne*, *Hermes*, *Perseus*, and *Icarus* #147-HM-90-3-13. Special Fitting for W.C. July 15, 1931 #147-HM-90-2-13. Special Fitting for W.C.'s in a Battery. September 8, 1931 Sketch of Chain for US Coast Guard Patrol Boats (blueprint and sketch)
	7	Hull #174 *Tide* (motor vessel, fishing), for the Bay State Fishing Company #174-212-1. Rigging Arrangement. May 15, 1936 #174-11-3. General Arrangement. December 1, 1936
	8	Hulls #278-283. 68-meter French Motor Trawlers #278-110-4. Scantling Plan Profile & Main Deck. January 14, 1946 #278-110-5. Midship & Type Sections. January 14, 1946

Pusey & Jones

Box	Folder	
1	9	Hulls #1020-1021. *State of Maryland* and *State of Virginia* (screw steamer, passenger) for the Seaboard Bay Line
		#25951. Outboard Profile and Arrangement of Hurricane Decks. January 26, 1921
		#25954. Midship Section. March 8, 1922
		#26275. Wheelhouse & Officers Quarters. May 1, 1922
		#26307. Cold Storage Room. June 15, 1922
2	1	Hull #1026. *Chelsea* (ferry) for the Reading Company
		#27502. Midship Section. January 24, 1923
	2	Hull #1028. *District of Columbia* (screw steamer, passenger) for the Norfolk and Washington Steamboat Company
		Dining Room. Side Wall

Miscellaneous Trawlers

Cochrane & Sons, Ltd.

2	3	#691-2. Steel Screw Trawler
		#613. General Arrangement. June 10, 1916

Cox & Stevens, New York

	3	#685 (preliminary). 132’ (waterline) Motor Trawler
		Outboard Profile, April 4. 1928
		Inboard Profile, April 5. 1928
		General Arrangement. April 5, 1928
		Midship Section. April 15, 1928

Fore River Plant

	3	115’ 3” Diesel Trawler for Francis J. O’Hara
		#H.7418-A MS-9518. Arrangement of Decks (preliminary). March 29, 1929

Manitowoc Shipbuilding & Drydock Co.

	3	Hull #77. *Surge* (motor vessel, fishing) for the Bay State Trawler Co.
		#4255. Rigging Plan. September 26, 1916

Seals and O’Connor
(Brokers, New York; plans written in French)

2 (rolled)		#153. 175’ Steam Trawler
		Midship Section. March 8, 1916
		Inboard Profile. March 27, 1916

General Arrangement. April 7, 1916
Propulsion System, n.d.

Miscellaneous Barges and Floats

2 4 Steel Car Float for the Delaware, Lackawanna & Western Railroad
Type of Frame Construction. June 6, 1910

4 500-ton Barge for the Delaware, Lackawanna & Western Railroad
Section through 500 ton barge

5 Barge for the Manhattan Lighterage Company
#7055/36-1. Exterior plan.
#705_/34-_. Centerline section. (Numbering obscured)

5 Sand Barge for the Philadelphia Transport & Lightering Company
Framing and Cross section

Unidentified

6 Three Unidentified Vessels
Midships section with boiler, 34’ 6” beam
Midships section, vessel dimensions 222’ by 43’ by 15’9”
Body plan, 24’ beam (possibly a BIW-built trawler)